Death (%)	1.9	1.0	NS
6 months F.U. angio (n)	28	236	NS
Restenosis rate (%)	18	22	
Single S. restenosis rate (%)	18	20	NS

Conclusion : Elective stent implantation is followed by a low incidence of stent closure, major cardiac events, and restenosis at the 6 month follow-up. These results are similar in native coronary arteries and in saphenous vein graft groups.

P1694

A novel biocompatible coating applied to coronary stents

J.E. Nordrehaug, N.A.F. Chronos, U. Sigwart.
Dept. of Invasive Cardiology, Royal Brompton National Heart and Lung Hospital, London, UK.

Metal stents are thrombogenic and do not eliminate restenosis. Polymeric stents and coatings have been found to cause profound vessel wall reaction with significant smooth muscle cell proliferation. We have examined the vessel wall reaction to a biocompatible phosphotidylcholine stent coating.

Ten anaesthetized New Zealand rabbitts (3-5 kg) underwent transcatheter placement via the right carotid artery of balloon-expandable slotted tube stents. One coated and one non-coated stainless steel stent were placed in opposite iliac arteries in a randomised fashion under fluoroscopic imaging. The histological and morphometric appearances of the gluteraldehyde fixed and hardened vessel walls were compared in rabbitts sacrificed at 24 hours, 1 week, and 4 weeks.

There were no thrombotic occlusion in either group and the degree of fibrous tissue reaction and smooth muscle recruitment and proliferation was not different in the coated versus the uncoated stents.

Thus, the phosphotidylcholine coating offers a biocompatible alternative to polymeric coatings and does not cause the intense vessel wall reaction seen with the polymeric coatings. Phosphotidylcholine coatings may constitute an ideal substrate for local drug delivery via intracoronary stents.

P1691

Increased and selective neointimal permeability, up to 12 weeks after successful stent implantation

H.M.M. van Beusekom, W.J. van der Giessen, P.W. Serruys, P.D. Verdouw. Thoraxcenter, Erasmus University Rotterdam

Introduction. We have shown previously, that de-endothelialized porcine coronary arteries exhibit an increased permeability for angiotensin (ANG)-I/II (1 kDa), as indicated by an increased breakdown of ANG-II when compared to normal controls. Also stented coronary arteries show this increased ANG breakdown, which indicates a problem at the level of endothelial permeability.
Objectives. To study the endothelial permeability after stenting by dye-exclusion testing (Björkerud et al, *Atherosclerosis 1972;15:285*).
Methods. Both balloon-expandable (n=11) and self-expandable stents (n=6) were implanted in porcine coronary arteries under quantitative angiographic guidance to prevent oversizing. At 4 or 12 weeks, the animals were catheterized for control angiography and Evans Blue (EB) infusion. To assess the size of endothelial leakage, 500 ml EB in saline (1 kDa) was infused into normal and stented coronary arteries in vivo after a saline wash and compared to EB-albumin complex (70 kDa). Thereafter, the coronary arteries were pressure-fixed for macro- and microscopic analysis.
Results. Macroscopical analysis revealed penetration of EB into the vessel wall up to 12 weeks after stenting, specifically in the tissue covering the metal stent wires. When EB was coupled to albumin however no penetration was found at either time point. Microscopical analysis revealed that all stents were completely endothelialized, apparently without any missing cells.
Conclusion. This study indicates that stenting decreases long-term endothelial integrity, but leakage is restricted to smaller molecules such as EB and ANG-II.

P1692

Comparison of Palmaz-Schatz elective stenting in saphenous vein grafts and native coronary arteries.

L. Diaz, J. Fajadet, O. Bar, B. Cassagneau, J.P. Laurent, G. Robert, J. Marco, Clinique Pasteur, Toulouse, France.

In order to compare the short term outcome and restenosis rate of elective stenting in native coronary arteries (NCA) to saphenous vein grafts (SVG) we analyzed results from two parallel consecutive series of 317 NAC pts and 54 SVG pts. SVG pts were older (63 vs 59, p<0.001), had lower LVEF (51% vs 59%, p<0.001) , higher frequency of MVD (98% vs 43%, p<0.001), a larger number of stents implanted (1.23 vs 1.05, p<0.01) and a larger stent diameter (3.9 mm vs 3.55 mm, p<0.001). Early outcome and restenosis were as follows :

	SVG	NAC	p
Stent closure (<28 days) (%)	3.7	4.7	NS
Recanalization W/O MI (%)	0	0.6	NS
MI (%)	1.9	0.9	NS
CABG (%)	0	1.6	NS
Death (%)	1.9	1.6	NS
6 months F.U. angio (n)	28	236	NS
Restenosis rate (%)	18	22	
Single S. restenosis rate (%)	18	20	NS

Conclusion : Elective stent implantation is followed by a low incidence of stent closure, major cardiac events, and restenosis at the 6 month follow-up. These results are similar in native coronary arteries and in saphenous vein graft groups.

P1693

Characteristics of metallicly modified stents and their influence on neointima formation in rabbits.

C. Hehrlein, M. Zimmermann, M. Grunze, J. Metz*, G.K. Wolf**, E. von Hodenberg. Dept. of Anatomy*, Physical Chemistry** and Cardiology, University of Heidelberg.

The purpose of this study was to evaluate the effects of several metallic coatings of stainless steel stents with different surface characteristics on neointima formation in rabbit arteries. It is not known whether redox potentials, electric charge or surface porosity of metallic stents influence neointimal thickening. Palmaz-Schatz stents were coated with copper (n=6), platinum (n=6) and gold (n=6) either by galvanization (copper, gold) or by ion bombardment (platinum). Galvanization causes a higher porosity of the coated metal than ion bombardment. The coated stents were placed in one iliac artery and uncoated stents were placed in the contralateral artery. Four weeks after stent implantation, the rabbits were sacrificed and iliac histomorphometry was assessed by computer-assisted analysis. Two copper and one gold stent were occluded by thrombus. The plaque area (mm^2) of the remaining stents was: 0.81 ± 0.17 (platinum), 3.14 ± 0.89 (copper), 2.2 ± 0.56 (gold) and 0.89 ± 0.26 (uncoated, $p < 0.01$ vs copper/gold).
In conclusion, surface characteristics rather than redox potentials of metallic stents influence neointima formation in rabbits.

P1694

A novel biocompatible coating applied to coronary stents

J.E. Nordrehaug, N.A.F. Chronos, U. Sigwart. Dept. of Invasive Cardiology, Royal Brompton National Heart and Lung Hospital, London, UK.

Metal stents are thrombogenic and do not eliminate restenosis. Polymeric stents and coatings have been found to cause profound vessel wall reaction with significant smooth muscle cell proliferation. We have examined the vessel wall reaction to a biocompatible phosphotidylcholine stent coating.

Ten anaesthetized New Zealand rabbitts (3-5 kg) underwent transcatheter placement via the right carotid artery of balloon-expandable slotted tube stents. One coated and one non-coated stainless steel stent were placed in opposite iliac arteries in a randomised fashion under fluoroscopic imaging. The histological and morphometric appearances of the gluteraldehyde fixed and hardened vessel walls were compared in rabbitts sacrificed at 24 hours, 1 week, and 4 weeks.

There were no thrombotic occlusion in either group and the degree of fibrous tissue reaction and smooth muscle recruitment and proliferation was not different in the coated versus the uncoated stents.

Thus, the phosphotidylcholine coating offers a biocompatible alternative to polymeric coatings and does not cause the intense vessel wall reaction seen with the polymeric coatings. Phosphotidylcholine coatings may constitute an ideal substrate for local drug delivery via intracoronary stents.